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(54) **Method of decreasing nitrate nitrogen and volatile organic compound in soil and groundwater**

(57) According to the present invention, a fatty acid having 10 or more carbon atom, alcohol having 12 or more carbon atom, ester of a linear saturated fatty acid having 14 or more carbon atoms and monohydric alcohol, ester of a linear saturated fatty acid having 14 or more carbon atoms and polyhydric alcohol, ester of a fatty acid having 16 or more carbon atoms and glycerine, and the like are buried into soil to decrease nitrate nitrogen and volatile organic compounds in soil and

groundwater, for the purpose of decreasing nitrate nitrogen and volatile organic compounds in soil and groundwater wherein on site treatment is possible, a high biological denitrification ability and a volatile organic compound decreasing ability are provided and secondary pollution by releasing of organic matter and nitrogen into environment is extremely small.

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EUROPEAN SEARCH REPORT

Application Number
EP 02 00 8059

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 546 649 A (RITTER ROBERT A) 16 June 1993 (1993-06-16) * column 3, line 57 - column 4, line 31 * * abstract *	1,2,8,9, 20	B09C1/10 B09C1/00 B09C1/08 C02F3/30 C02F101/16
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 08, 6 October 2000 (2000-10-06) & JP 2000 125850 A (TOYOTA MOTOR CORP; TOYOTA CENTRAL RES & DEV LAB INC), 9 May 2000 (2000-05-09) * abstract *	1,2,8,9, 20	C02F101/30 C02F103/06
X	US 5 725 470 A (LAZAROWITZ VIRGINIA L ET AL) 10 March 1998 (1998-03-10) * column 1, line 7 - line 52 * * column 4, line 47 - line 52 * * claim 5 *	3,4,10, 11	
A	EP 0 909 593 A (LUBRIZOL CORP) 21 April 1999 (1999-04-21) * paragraphs '0010! - '0012!, '0026! *	3,4,10, 11,20	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B09C
-The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 May 2004	Examiner Clarke, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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Application Number
EP 02 00 8059

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
1-4, 8-11, 20
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1,2,8,9,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using fatty acid having at least 10 carbon atoms

2. claims: 3,4,10,11,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using alcohol having at least 12 carbon atoms

3. claims: 5,12,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using linear saturated fatty acid having at least 14 carbon atoms and an ester of monohydric alcohol

4. claims: 6,13,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using linear saturated fatty acid having at least 14 carbon atoms and an ester of polyhydric alcohol

5. claims: 7,14,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using fatty acid having at least 16 carbon atoms and an ester of glycerine

6. claims: 15,16,20,21

Method of decreasing nitrates and volatile organic components in soil or groundwater using a fatty amine or amide having at least 12 carbon atoms

7. claims: 17,18,20

Method of decreasing nitrates and volatile organic components in soil or groundwater using sulphur or a sulphur compound



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 02 00 8059

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

8. claims: 19,20

Method of decreasing nitrates and volatile organic
components in soil or groundwater using biodegradable resin

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 00 8059

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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05-05-2004

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82